

Agilent Ref: 10004190-1
United States Application Serial No. 09/846,058

REMARKS

Formal Matters

Claims 1-9 and 28-46 are pending.

Claims 29, 31, 35 and 39-44 are allowed.

Claims 1-9, 27, 28, 30, 32-38, 45 and 46 are rejected.

Claims 1, 4, 28, 45 and 46 are amended for clarity. No new matter is added.

Applicants respectfully request reconsideration of the application.

Allowable subject matter

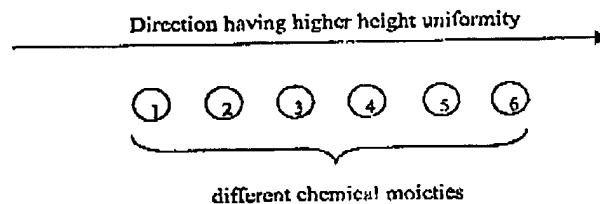
The Examiner's allowance of claims 29, 31, 35 and 39-44 is gratefully acknowledged.

Rejection of claims under 35 U.S.C. § 102(e) - Indermuhle

Claims 1-9, 27, 30 and 32-34, 36 and 46 are rejected under 35 U.S.C. § 102(e) as being anticipated by Indermuhle (US20010036674). The Applicants respectfully traverse this rejection.

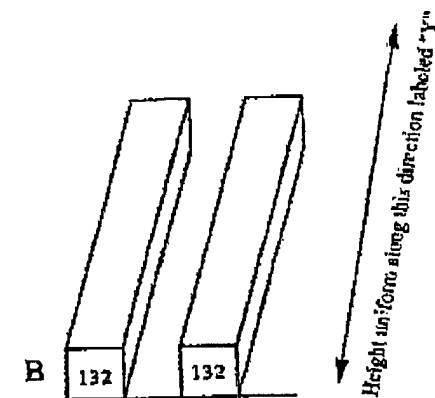
The Applicants acknowledge and appreciate the Examiner's use of drawings to clearly illustrate the Office's position.

Without any intention to acquiesce to the correctness of this rejection and solely to expedite prosecution, the claims have been amended to recite depositing different chemical moieties in rows on a substrate, where the rows each contain a plurality of different chemical moieties and are more closely aligned with a direction having the higher height uniformity. In other words, the different chemical moieties may be placed onto a substrate as follows:



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Indermuhle discloses a pillar array. As illustrated in Indermuhle's Fig. 24, Indermuhle's pillar array may contain pillars that are rectangular in shape. In the Office Action, the Examiner argues that the longest dimension of the top of a rectangular pillar is the direction having the higher height uniformity. A figure illustrating this point, copied from the Office Action, is set forth below.



As illustrated in Indermuhle's Figs. 8, 9 and 25, Indermuhle places a single chemical moiety on the top of each pillar by essentially "dipping" the pillar into a reagent trough. This is the central core of Indermuhle's technology.

At no point does Indermuhle disclose depositing a row of different chemical moieties onto the top of a rectangular pillar. Since Indermuhle's technology relies on "dipping" pillars into reagent troughs, this would be impossible.

As noted above, the rejected claims recite rows of different chemical moieties, where the rows are more closely aligned with a direction having the higher height uniformity.

Indermuhle simply does not provide this feature because it would involve depositing different chemical moieties lengthwise along the top of a rectangular pillar (i.e., in the direction having the higher height uniformity). Indermuhle neither discloses such a feature, nor enables such a feature (because of Indermuhle's dipping technology).

In view of the foregoing discussion, the Applicants respectfully submit that Indermuhle fails to disclose an element of the claims, i.e., rows of different chemical moieties, where the rows are more closely aligned with a direction having the higher height uniformity. Withdrawal of this rejection is respectfully requested.

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Claim objections

Claim 4 is objected to as containing two "(a)" steps.

Without wishing to acquiesce to the correctness of this rejection, claim 4 has been amended to recite a single "(a)" step.

The Applicants respectfully submits that this rejection has been adequately addressed and may be withdrawn.

Claim 27 is objected to for being a substantial duplicate of claim 1.

Without wishing to acquiesce to the correctness of this rejection, claim 27 has been cancelled.

This rejection is therefore moot and may be withdrawn.

Rejection of claims under 35 U.S.C. § 102(b) - Liu

Claims 1-3, 8, 9 and 45 are rejected under 35 U.S.C. § 102(b) as anticipated by Liu (Acc. Chem. Res. 2000 33:457-566). The Applicants respectfully traverse this rejection.

Liu's disclosure relates to the production of a nano-patterned self-assembled monolayer (SAM). According to Liu, a flat region of the SAM-coated substrate is identified, and the SAM is etched using one of a variety of lithographic methods to produce nano-patterns. As a proof of concept experiment, Liu incubated an etched substrate with lysozyme, and demonstrated binding of the lysozyme to the etched regions of the substrate. The results are shown in Fig. 10.

At no point does Liu disclose any type of method that involves comparing height uniformity of a first direction and a second direction across a substrate to identify a first direction having higher height uniformity than a second direction. This step simply is not necessary for identifying a flat area of a substrate.

Further, Liu does not disclose depositing a plurality of different chemical moieties in a row that is more closely aligned with a direction having the higher height uniformity.

The Examiner interprets Fig. 10 as showing different chemical moieties (lysozyme and SAM) that are placed in a row that is more closely aligned with a direction having the higher height uniformity.

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However, the Applicants submit that Liu's lysozyme and SAM are not present on the substrate surface in any particular direction relative to the direction having the higher height uniformity. The direction in which Liu's lysozyme and SAM molecules are placed is random, if anything.

Further, the Applicants note that Liu's SAM is deposited onto the substrate *prior to* identifying a flat area of the substrate. Accordingly, even if Liu's SAM could be considered a chemical moiety that is placed onto the substrate, it is not placed onto the substrate *after* the height uniformity is compared, as required by the instant claims.

In view of the foregoing discussion, the Applicants respectfully submit that Indermuhle fails to disclose at least one element of each of the rejected claims. Withdrawal of this rejection is respectfully requested.

Rejection of claims under 35 U.S.C. § 103(a)

Claims 1-9, 32-38, 45 and 46 are rejected under 35 U.S.C. § 103(a) as unpatentable over Liu (Acc. Chem. Res. 2000 33:457-566), Abbc (4,860,229) and Cattell (6,180,351).

Claims 1-9, 27, 28, 30, 32-34, 36-38 and 46 are further rejected under 35 U.S.C. § 103(a) as unpatentable over Indermuhle (US20010036674) and Cattell (6,180,351).

The Applicants submit that the subject matter of the cited Cattell patent and the claimed invention were, at the time the invention was made, assigned or under obligation of assignment to Agilent. Accordingly, Cattell cannot preclude the patentability of the rejected claims, and these rejections may be withdrawn.

Support for this assertion is set forth below.

35 U.S.C. 103 (a) states that a patent may not be obtained if the differences between the claimed subject matter and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made¹. 35 U.S.C. 103 (c), however, states that subject matter developed by another person shall not preclude patentability under 103(a) where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.²

¹ 35 U.S.C. 103(a): A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

² 35 U.S.C. 103(c): Subject matter developed by another person, which qualifies as prior art only under one or

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According to 35 USC § 103(c), therefore, the Cattell patent cannot preclude the patentability of the rejected claims if the Cattell patent and the instant application were assigned to the same person or subject to an obligation of assignment to the same person, at the time the instant invention was made.

The invention claimed in the instant patent application was owned by Agilent Technologies, Inc. ("Agilent") or subject to an obligation of assignment to Agilent at the time the instant invention was made, as evidenced by an assignment recorded at reel 013365/frame 0320. This assignment was recorded on January 16, 2003.

The Cattell patent was owned by Agilent or subject to an obligation of assignment to Agilent at the time the instant invention was made, as evidenced by an assignment recorded at reel 010977/frame 0540. This assignment was recorded on May 30, 2000.

Thus, the Cattell patent and the claimed invention were, at the time the invention was made, assigned or under obligation of assignment to Agilent. Accordingly, Cattell cannot preclude patentability of the instant claims under 103(a).

In view of the disqualification of Cattell as a prior art reference, these rejections may be withdrawn.

more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

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CONCLUSION

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078.

Respectfully submitted,
BOZICEVIC, FIELD & FRANCIS LLP

Date: 4.22.05

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